

AN OFFSET, DELAY AND PARASITICALLY
IMMUNE RESISTER-CAPACITOR (RC) TRACKING LOOP
AND METHOD OF USING SAME

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ABSTRACT OF THE DISCLOSURE

A resistor capacitor (RC) tracking loop includes a parasitic insensitive integrator (211) charged by a buffer (207) with offset compensation. The integrator (211) operates to provide an accurate ramped voltage proportional to a measured RC time constant. A single comparator (213) is used for sensing the voltage ramp rate by detecting two 10 multiplexed reference voltages (V_{REFLO} V_{REFHI}). A timer within controller (201) is triggered by the V_{REFLO} crossing at comparator (213). The timer counts the number of precision reference clock periods (F_{REF}) that occur between the V_{REFLO} and V_{REFHI} crossings and adjusts an accumulator within controller (201) to a value (M). This value 15 (M) is directly used to adjust a resistor and/or capacitor array used in a continuous time filter whose bandwidth and corner frequency can be precisely tuned.